



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/862,648	05/22/2001	Roger Woodruff	1370.018US1	8678
21186	7590	12/16/2004	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.			BRANCOLINI, JOHN R	
P.O. BOX 2938			ART UNIT	
MINNEAPOLIS, MN 55402			PAPER NUMBER	

2153

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/862,648

Applicant(s)

WOODRUFF, ROGER

Examiner

John R Brancolini

Art Unit

2153

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claims 1-31 are currently pending in the application.

Priority

No claim for priority has been made. The effective filing date of the application is May 22, 2001.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on October 16, 2001 was filed after the mailing date of the application on May 22, 2001. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 112

Claim 22 recites the limitations "the encoded name", "the second protocol", "the name", and "the first protocol format". There is insufficient antecedent basis for this limitation in the claim.

Since Claim 22 is an independent claim, no basis is provided for these limitations.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-2, 5-7, 9-10, 12-15, 18-19, 22-23, 26-27, 30-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Kronz (US Patent 6675196).

In regards to claim 1, Kronz discloses a computerized method, comprising:

- Discovering a device (the server utilizes a link layer to identify a device, col 7 lines 4-15)
- Determining a name associated with the device, wherein the name is in a first protocol format (the server initiates communication utilizing a first protocol, or link protocol, for receiving initial information from a user device, col 7 lines 4-7).
- Encoding the name into a second protocol format (the name is encoded from the link protocol into the universal protocol of the invention for transmission from the server, col 7 lines 29-57 shows the server both identifying the protocols used for naming the devices, as well as a client requesting a listing of devices).

- Transmitting the encoded name across a network (the server transmits the information, col 7 lines 20-23 shows the issuance of the tag-line message from the server).

In regards to claim 2, Kronz discloses:

- Receiving the encoded name in the second protocol format across the network (the client receives a packet including the device names, col 7 lines 60-64).
- Decoding the encoded name from the second protocol format into the name in the first protocol format (utilizing the universal protocol of the system, the client can decode the information into usable data for native protocol communication, col 7 line 64 – col 8 line 17, additional native protocol communication is discussed col 18 lines 35-42).
- Sending the name to a host (a client can further act as a server, thereby sending the received information to a host which wished to access the remote device, col 6 lines 48-58).

In regards to claim 5, Kronz discloses the device is attached to a server via a channel fabric and the discovering, determining, encoding, and transmitting are implemented by the server (as seen in the discussion of claim 1, the server discovers devices, determines a name for the device, encodes the name into the universal protocol, and transmits the information to the client).

In regards to claim 6, Kronz discloses the receiving, decoding, and sending are implemented by a client attached to the host via a channel fabric (as seen in the discussion of claim 2, the receiving, decoding, and sending occurs at the client).

In regards to claim 7, Kronz discloses a server, comprising:

- A channel adapter to discover a device and determine a name associated with the device, wherein the name is in a first protocol format (the server utilizes a link layer to identify a device, the name being in a link protocol, col 7 lines 4-15)
- An encoder to encode the name into a second protocol format (the server encodes the name of the device into a universal protocol from a link protocol, which allows subsequent clients to access the device through the server, in this example to access a remote pager or personal digital assistant [PDA], col 6 lines 48-60, col 7 lines 17-36).
- A network adapter to transmitting the encoded name across a network (the server transmits the information through a network adapter, col 7 lines 20-23 shows the issuance of the tag-line message from the server).

In regards to claim 9, Kronz discloses the device is attached to the server via a channel fabric (Figure 2 shows the network connections, which col 6 lines 26-47 describes, including the hardware lines capable of transmitting information from the devices, which satisfies the limitation of channel fabric).

In regards to claim 10, Kronz discloses a client, comprising:

- A network adapter to receive an encoded name in a second protocol format across a network (the client receives a packet including the device names encoded in a universal protocol through a separate network adapter, col 7 lines 60-64).
- A decoder to decode the encoded name from the second protocol format into a name in a first protocol format (utilizing the universal protocol of the system, the client can decode the information into usable data, the data being converted to a native protocol, col 7 line 64 – col 8 line 17, additional native protocol communication is discussed col 18 lines 35-42).
- A channel adapter to send the name to a host (a client can further act as a server, thereby sending the received information to a host which wished to access the remote device, col 6 lines 48-58).

In regards to claim 12, Kronz discloses the client is attached to the host via a channel fabric (Figure 2 shows the network connections, which col 6 lines 26-47 describes, including the hardware lines capable of transmitting information from the devices, which satisfies the limitation of channel fabric).

In regards to claim 13, Kronz discloses the client emulates the device to the host (the client, acting as a second server, can provide the functionality of the other devices to the host, or emulate the other devices, col 6 lines 48-58).

In regards to claim 14, Kronz discloses a system, comprising:

- A device (figure 2 shows several devices).
- A server communicatively coupled to the device via a first channel fabric, wherein the server comprises:
 - A first channel adapter to discover a device and determine a name associated with the device, wherein the name is in a first protocol format (the server initiates communication utilizing a first protocol, or link protocol, for receiving initial information from a user device, col 7 lines 4-7).
 - An encoder to encode the name into a second protocol format (the server encodes the name of the device from a native protocol into a universal protocol, which allows subsequent clients to access the device through the server, in this example to access a remote pager or personal digital assistant [PDA], col 6 lines 48-60, col 7 lines 17-36).
 - A first network adapter to transmitting the encoded name across a network (the server transmits the information through a network adapter, col 7 lines 20-23 shows the issuance of the tag-line message from the server).
- A client communicatively coupled to the server via a network, wherein the client comprises:
 - A second network adapter to receive an encoded name in a second protocol format across a network (the client receives a packet including the device names through a separate network adapter, col 7 lines 60-64).

Art Unit: 2153

- A decoder to decode the encoded name from the second protocol format into a name in a first protocol format (utilizing the universal protocol of the system, the client can decode the information into usable data stored in a native protocol, col 7 line 64 – col 8 line 17, additional native protocol communication is discussed col 18 lines 35-42).
 - A second channel adapter to send the name to a host (a client can further act as a server, thereby sending the received information to a host which wished to access the remote device, col 6 lines 48-58).
- A host communicatively coupled to the client via a second channel fabric (as stated above, the client can also act as another server, which a host can access to utilize other devices).

In regards to claim 15, Kronz discloses the client emulates the device to the host (the client, acting as a second server, can provide the functionality of the other devices to the host, or emulate the other devices, col 6 lines 48-58).

In regards to claim 18, Kronz discloses a signal-bearing media bearing instructions that when read and executed by a server comprise:

- Discovering a device (the server utilizes a link layer to identify a device, col 7 lines 4-15)

Art Unit: 2153

- Determining a name associated with the device, wherein the name is in a first protocol format (the server initiates communication utilizing a first protocol, or link protocol, for receiving initial information from a user device, col 7 lines 4-7).
- Encoding the name into a second protocol format (the name is encoded into the universal protocol of the invention for transmission from the server, col 7 lines 29-57 shows the server both identifying the protocols used for naming the devices, as well as a client requesting a listing of devices).
- Transmitting the encoded name across a network (the server transmits the information, col 7 lines 20-23 shows the issuance of the tag-line message from the server).

In regards to claim 19, Kronz discloses the device is attached to the server via a channel fabric (Figure 2 shows the network connections, which col 6 lines 26-47 describes, including the hardware lines capable of transmitting information from the devices, which satisfies the limitation of channel fabric).

In regards to claim 22, Kronz discloses a signal-bearing media bearing instructions that when read and executed by a client comprise:

- Receiving the encoded name in the second protocol format across the network (the client receives a packet including the device names through a separate network adapter, col 7 lines 60-64).

Art Unit: 2153

- Decoding the encoded name from the second protocol format into the name in the first protocol format (utilizing the universal protocol of the system, the client can decode the information into usable data stored in a native protocol, col 7 line 64 – col 8 line 17, additional native protocol communication is discussed col 18 lines 35-42).
- Sending the name to a host (a client can further act as a server, thereby sending the received information to a host which wished to access the remote device, col 6 lines 48-58).

In regards to claim 23, Kronz discloses the client is attached to the host via a channel fabric (Figure 2 shows the network connections, which col 6 lines 26-47 describes, including the hardware lines capable of transmitting information from the devices, which satisfies the limitation of channel fabric).

In regards to claim 26, Kronz discloses an apparatus, comprising:

- Means for discovering a device (the server utilizes a link layer to identify a device, col 7 lines 4-15)
- Means for determining a name associated with the device, wherein the name is in a first protocol format (the server initiates communication utilizing a first protocol, or link protocol, for receiving initial information from a user device, col 7 lines 4-7).

- Means for encoding the name into a second protocol format (the name is encoded into the universal protocol of the invention for transmission from the server, col 7 lines 29-57 shows the server both identifying the protocols used for naming the devices, as well as a client requesting a listing of devices).
- Means for transmitting the encoded name across a network (the server transmits the information, col 7 lines 20-23 shows the issuance of the tag-line message from the server).

In regards to claim 27, Kronz discloses:

- Means for receiving the encoded name in the second protocol format across the network (the client receives a packet including the device names through a separate network adapter, col 7 lines 60-64).
- Means for decoding the encoded name from the second protocol format into the name in the first protocol format (utilizing the universal protocol of the system, the client can decode the information into usable data stored in a native protocol, col 7 line 64 – col 8 line 17, additional native protocol communication is discussed col 18 lines 35-42).
- Means for sending the name to a host (a client can further act as a server, thereby sending the received information to a host which wished to access the remote device, col 6 lines 48-58).

In regards to claim 30, Kronz discloses the device is attached to a server via a channel fabric and the discovering means, determining means, encoding means, and transmitting means are implemented by the server (as seen in the discussion of claim 1, the server discovers devices, determines a name for the device, encodes the name into the universal protocol, and transmits the information to the client).

In regards to claim 31, Kronz discloses the receiving means, decoding means, and sending means are implemented by a client attached to the host via a channel fabric (as seen in the discussion of claim 2, the receiving, decoding, and sending occurs at the client).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4, 8, 11, 16-17, 20-21, 24-25, 28-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kronz in view of Ross (Storage over the Internet, iSCSI emerges, Brent Ross, Network World, December 4, 2000, supplied in the IDS).

With regards to claims 3, 16, 20, 24 and 28, Kronz teaches conversion from a first protocol to a second protocol, but fails to disclose the first protocol is Fibre Channel.

Ross, in his article, discusses translating Fibre Channel information into IP packets.

Ross says this is useful for transferring control codes and data from one Fibre Channel storage-area network to another remote Fibre Channel storage-area network.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Kronz to encode data in a first protocol of Fibre Channel to a second protocol as taught by Ross to allow for transferring of control codes and data from one Fibre Channel SAN to another Fibre Channel SAN easily and quickly.

With regards to claims 4, 17, 21, 25 and 29, Kronz teaches conversion from a first protocol to a second protocol, but fails to disclose the second protocol is iSCSI over TCP/IP. Ross, in his article, discusses transmitting native SCSI over a layer of the IP stack, or iSCSI transmission. Ross shows this allows smaller localized SANs to be built using the common Ethernet infrastructure, as iSCSI can be transmitted over existing networks, such as the Internet.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Kronz to encode data into the iSCSI over TCP/IP protocol as a second protocol for transmission of data as taught by Ross to allow smaller localized SANs to be built using the common Ethernet infrastructure, as iSCSI can be transmitted over existing networks, such as the Internet, which would reduce overall costs of the actual storage systems.

With regards to claims 8 and 11, the above discussions shows motivation for one to modify Kronz to include both the first protocol format being Fibre Channel and the second protocol being iSCSI over TCP/IP.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Onaga (US Patent 5862404), peripheral device discovery and management by a centralized workstation, including name translation into multiple protocols.
- Weber et al. (US Patent 6480901), a system for monitoring and managing devices on a network that includes protocol conversion at the management station.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John R Brancolini whose telephone number is (571) 272-3948. The examiner can normally be reached on M-Th 7am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (571) 272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JRB


ZARNI MAUNG
PRIMARY EXAMINER